ADDENDA TO THE VASCULAR FLORA OF SAN LUIS OBISPO COUNTY, CALIFORNIA

David J. Keil, Robert L. Allen[1],
Joy H. Nishida[2], and Eric A. Wise[3]
Biological Sciences Department
California Polytechnic State University,
San Luis Obispo, CA 93407

Abstract

Documentation is provided for the occurrence of 76 species of flowering plants not reported previously from San Luis Obispo County, California. Recent collections confirm the presence of three additional species that were reported from San Luis Obispo County but not included in *The Vascular Plants of San Luis Obispo County, California* (Hoover 1970). Of the addenda to the county's flora, 21 are native to California and 58 are introduced. The additions include members of 32 families, four of which were not represented previously in the county's flora: Basellaceae, Haloragaceae, Molluginaceae, and Hydrocharitaceae.

The Vascular Plants of San Luis Obispo County, California (Hoover 1970) has provided a sound foundation for subsequent floristic studies in the county. The thoroughness of Hoover's research on the county flora and his careful scholarship have been demonstrated repeatedly by users of his flora. As can be expected with any flora, subsequent investigations have documented the presence in the county of species not reported by Hoover. In this paper we are adding 76 taxa to the known flora of San Luis Obispo County. Another three species are listed that were reported from San Luis Obispo County in Munz (1968) but overlooked or deliberately omitted in the preparation of the final drafts of Hoover's flora. Recent collections of these species are noted.

The addenda to the San Luis Obispo County flora include members of 32 families. Four of these, Basellaceae, Haloragaceae, Molluginaceae, and Hydrocharitaceae, were not reported previously from the county. Page numbers from Hoover (1970) are indicated for those families already known from San Luis Obispo County.

The following list is based on specimens deposited in OBI. For most taxa we have followed the nomenclature of Munz and Keck (1959) and Munz (1968). For some weedy taxa, particularly those

[1] Present address: Museum of Systematic Biology, Univ. of California, Irvine, CA 92717.

[2] Present address: Section of Botany, Carnegie Museum of Natural History, 4400 Forbes Ave., Pittsburgh, PA 15213.

[3] Present address: Biological Sciences Dept., Chabot College, Hayward, CA 94545.

Madroño, Vol. 32, No. 4, pp. 214–224, 20 December 1985

of European origin, the names used by Munz and Keck differ from those used by Tutin et al. (1964–1980) and by Kartesz and Kartesz (1980). For these taxa, we have noted in brackets the names used by Munz and Keck. Authorities are from Munz and Keck (1959), Munz (1968), and Kartesz and Kartesz (1980), except as noted.

The additions to the San Luis Obispo County flora represent 21 native and 58 introduced species. Most of the native taxa were probably present when Hoover did his field work but were overlooked. [*Sagittaria latifolia* is native to California but known to have been introduced to San Luis Obispo County.] Some native taxa, such as *Elatine rubella* and *Limosella aquatica,* are very inconspicuous plants. Others occur in very restricted areas that Hoover never visited. Of the introduced taxa, some are well-established and probably were present during Hoover's studies. Others appear to be recent introductions. The documentation of their occurrence at this time will allow later studies to determine whether the taxa have become permanent members of the county's flora. In the species list, introduced taxa are indicated by an asterisk (*).

Some of the additions are a result of intensive floristic surveys. Local areas covered in these floristic studies include the Arroyo de la Cruz region in the northwestern corner of the county, American Canyon in the La Panza Mountains, Black Lake Canyon on the Nipomo Mesa, Laguna Lake Park in San Luis Obispo, and the Huerhuero Creek drainage near Creston. A survey of aquatic habitats throughout the county by Wise (1984) produced several new records.

Addenda to the Vascular Flora

Anthophyta—Dicotyledoneae

Anacardiaceae (p. 188)

Rhus integrifolia Benth. & Hook. f. ex Brewer & S. Wats. Between Arroyo Grande and San Luis Obispo along Hwy 227, ca. 3.2 km south of southern jct. with Corbett Canyon Rd., coastal scrub hillside (*Keil 13688*). This population is the northernmost known occurrence for *R. integrifolia.*

Apiaceae (p. 208)

**Apium leptophyllum* (Pers.) F. Muell. ex Benth. & Muell. Common lawn weed on campus of California Polytechnic State Univ., San Luis Obispo (*Keil 13677*).

Perideridia kelloggii (A. Gray) Mathias. Grassy slope in heavy clay soil on south side of Arroyo de la Cruz (*Keil 17394*).

**Torilis arvensis* (Huds.) Link subsp. *purpurea* (Ten.) Hayek. Along channel of Arroyo de la Cruz (*Keil 14881*); lawn

weed on campus of California Polytechnic State Univ., San Luis Obispo (*Keil 14931*); Lopez Wilderness Area, abundant along trail in upper Lopez Canyon in open woods (*Keil and Webster 18188*).

Asteraceae (p. 273)

**Chondrilla juncea* L. Reported from the county by Munz (1968). This species was first collected in the county by R. F. Hoover in 1965 from the summit of Cuesta Grade 9.7 km north of San Luis Obispo (*Hoover 9634*) and 1.6 km west of San Luis Obispo along Hwy 1 (*Hoover 9645*). The two infestations were treated chemically by the San Luis Obispo County Agricultural Commissioner's office in 1966 (Fuller 1966) and Hoover did not include the species in his flora. The eradication efforts were apparently unsuccessful and the species was collected at several locations in the San Luis Obispo area in the early 1980s. This species is locally common along the right-of-way of the Southern Pacific Railroad and on roadsides from Santa Margarita to San Luis Obispo, and has been collected from the following sites: Cuesta Summit along unpaved fire road in chaparral area (*Keil s.n.*); San Luis Obispo (*Keil s.n., Burdett and Burdett s.n., Allen A500*). Doug Barbe of the State Department of Food and Agriculture states (pers. comm.) that county personnel are once again attempting to eradicate this invasive weed.

**Eclipta prostrata* (L.) L. [=*E. alba* (L.) Hassk.]. East end of Lopez Lake below confluence of Arroyo Grande Cr. and Phoenix Cr., drying mudflats and sandbars (*Keil 13644*); just south of Creston along Middle Branch of Huerhuero Cr., sandy dry stream bed (*Keil 17976*).

**Erechtites glomerata* (Poir.) DC. [=*E. arguta* (A. Rich.) DC. (Barkley 1981)]. Reported from the county by Munz (1968) but not listed by Hoover (1970); recent collection from lower slopes of Cypress Mountain, in a live oak woodland, roadside on mesic north-facing slope (*Keil et al. 15942*).

**Erechtites minima* (Poir.) DC. [=*E. prenanthoides* (A. Rich.) DC.]. Arroyo de la Cruz in bed of unused dirt road on steep oak-wooded slope (*Keil 17401*).

Lasthenia glabrata Lindl. Baywood Park at Sweet Springs Marsh. Locally common in salt marsh (*Cardwell 238*).

Lasthenia maritima (A. Gray) M. Vasey [=*L. minor* (DC.) Ornduff subsp. *maritima* (A. Gray) Ornduff]. Pup Rock, near Lion Rock, offshore of mouth of Diablo Canyon; in crevices and among loose, guano-soaked rocks in western gull breeding area (*Vasey and Harms 8119*). The Diablo Canyon site is disjunct from the nearest known population in San Mateo County by over 300 km (M. C. Vasey, pers. comm.).

**Leontodon taraxacoides* (Vill.) Merat subsp. *taraxacoides* [=*L. leysseri* (Wallr.) G. Beck]. Along Prefumo Canyon Rd., 1.6 km west of Los Osos Valley Rd. (*Keil 11830*).

Basellaceae

**Anredera cordifolia* (Ten.) Steenis. San Luis Obispo, in shrubs next to San Luis Cr. (*Keil s.n.*).

Brassicaceae (p. 142)

**Coronopus didymus* (L.) Sm. Sand dunes at south end of Morro Bay (*Schwartz and Long 32*); garden weed in Los Osos (*Keil s.n.*); 2.9 km north of Arroyo de la Cruz (*Keil 17387*).

**Erophila verna* (L.) Chev. [=*Draba verna* L.]. Nipomo Mesa along Black Lake Canyon, locally abundant along trail (*Jones and Keil 15812*); American Canyon campground on slight slope in blue oak woodland (*Nishida and Allen 213*).

**Lepidium latifolium* L. Along Hwy 41, 1.6 km northeast of jct. with Hwy 1 in Morro Bay, roadside (*McLeod s.n.*).

**Lepidium oblongum* Small. La Panza Mts., American Canyon in blue oak woodland (*Nishida 231, 287, 551*); Los Osos in cracks of sidewalk (*Keil 15887*); Ridge between Arroyo de la Cruz and Arroyo del Oso (*Keil 16995*).

Caryophyllaceae (p. 129)

**Sagina apetala* Ard. North of Arroyo de la Cruz and west of Hwy 1, locally common in damp soil of dune slack at edge of trail (*Keil 16924*); south end of Santa Lucia Mts., on rd. to Stony Cr. campground, 0.6 km from jct. with Avenales-Agua Escondido Rd. (T31S R16E S27), 700 m elev., very local on moss-covered rocks in shaded ravine with other minuscule herbs and *Anthoceros* (*Keil and Riggins 18211*).

Chenopodiaceae (p. 120)

Chenopodium chenopodioides (L.) Aellen. 4.8 km south of Creston along Hwy 229, along Middle Branch of Huerhuero Cr. (*Keil 14259*).

**Chenopodium multifidum* L. Baywood Park–Los Osos area on roadsides (*Keil 17407, 18301, 18433*).

Elatinaceae (p. 196)

Elatine rubella Rydb. Just south of Creston in damp sand at edge of Creston Lake (*Keil 17996*).

Euphorbiaceae (p. 186)

**Euphorbia serpens* H.B.K. Campus of California Polytechnic State Univ., San Luis Obispo, common weed in ornamental plantings (*Keil 18004*).

Fabaceae (p. 165)

**Lathyrus japonicus* Willd. Intersection of South Bay Blvd. and Turri Rd. in sandy soil just above salt marsh (*Meredith 23*).

Lotus oblongifolius (Benth.) Greene. American Canyon in La Panza Mts., locally common among rocks in stream channel (*Keil et al. 18136*).

**Spartium junceum* L. Well-established and spreading in the sandy channel of Arroyo de la Cruz (*Keil 13992*); occasional on brushy slopes on campus of California Polytechnic State Univ., San Luis Obispo (*Keil 18299*); along Foothill Blvd. ca. 0.4 km from Los Osos Valley Rd., grassy roadside in agricultural area (*Keil 18319*).

**Trifolium campestre* Schreb. [=*T. procumbens* sensu auct. non L.]. 1.4 km north of San Simeon along Hwy 1, locally an aspect dominant growing in dense colonies (*Keil 16950*); ridge south of Arroyo de la Cruz, locally common in grassy areas (*Keil 18123*).

**Trifolium dubium* Sibthorp. Campus of California Polytechnic State Univ., San Luis Obispo, lawn weed (*Keil s.n.*).

**Trifolium fragiferum* L. Campus of California Polytechnic State Univ., San Luis Obispo, weed in lawn (*Keil 17163*); ca. 4.8 km west of Cuesta College along Chorro Cr. near Highway 1 (*Keil 12508*); Laguna Lake Park, San Luis Obispo (*Smeltzer and Turnquist 208*); south of San Luis Obispo, 3.7 km from Johnson Ave. on Orcutt Rd. in rocky streamlet (*Wise 1206*); weed of lawn areas on campus of Los Osos Junior High School (*Keil 18431*).

**Trifolium glomeratum* L. Just south of highway bridge over Arroyo de la Cruz, very local on roadside (*Keil 17072*).

**Trifolium pratense* L. Locally common weed of summer-irrigated lawns and playground areas on campus of Baywood Elementary School, Baywood Park (*Keil 18432*).

**Vicia sativa* L. subsp. *nigra* (L.) Ehrh. [=*V. angustifolia* L.]. Ridge system between Arroyo de la Cruz and Arroyo de los Chinos on grassy slope (*Keil 16962*).

**Vicia villosa* Roth subsp. *varia* (Host.) Corb. [=*V. dasycarpa* Ten.]. Well-established in western half of San Luis Obispo County. Adelaida (*Jackman and Truesdale 11*); 12.3 km northeast of Santa Margarita (*Arnold and Allen 280*); Reservoir Canyon (*Burrows 68*; *Berry and Wilson 55*); Laguna Lake Park, San

Luis Obispo (*Smeltzer and Turnquist 55*); San Luis Obispo (*Dettloff 01*); Indian Knob (*Vanderwier 150*); Black Lake Canyon (*Keil and Wise 16268*); near Rinconada Mine, south of Santa Margarita (*Keil et al. 18224*).

Fumariaceae (p. 142)

**Fumaria parviflora* Lam. San Luis Obispo in cultivated field southwest of Madonna Rd. Shopping Plaza (*Ashley s.n.*).

Haloragaceae

**Myriophyllum spicatum* L. Lopez Lake, locally common in shallow water, particularly around inlets (*Keil 13672* [voucher determined by O. Ceska]; *Wise 1065, 1259*). Smith (1976) listed *Myriophyllum spicatum* subsp. *exalbescens* (Fern.) Jeps. from wetland areas of the Nipomo Dunes. He cited no specimens and did not indicate the source of his information. We have been unable to verify the occurrence of this taxon in San Luis Obispo County.

Hypericaceae (p. 196)

**Hypericum perforatum* L. South of San Luis Obispo on Orcutt Rd. (*Keil 18318*).

Linaceae (p. 186)

**Linum bienne* P. Mill. [=*L. angustifolium* Huds.]. Locally common on grassy roadsides along Hwy 1 from San Carpoforo Cr. (*Brown 2023*) south to Arroyo de la Cruz (*Jones s.n.*; *Keil 16247*).

Malvaceae (p. 193)

**Abutilon theophrasti* Medic. Atascadero, weed in cultivated field (*Dempsey s.n.*); campus of California Polytechnic State Univ., San Luis Obispo, locally common weed in cultivated fields (*Wilgenburg 8*).

**Lavatera arborea* L. Scattered in coastal areas from Morro Bay south into Santa Barbara County. Morro Bay, locally common on sand dunes (*Keil 18309*); Baywood Park on damp roadside near edge of marsh (*Keil 18289*); Arroyo Grande, agricultural area (*Keil 18314*); just north of Santa Maria River on Hwy 1 (*Keil 18315*).

**Modiola caroliniana* (L.) G. Don. Lawn weed at Laguna Lake Park (*Turnquist and Smeltzer 184*); San Luis Obispo (*McLeod 1390*).

Molluginaceae

**Glinus lotoides* L. Reported from the county by Munz (1968) but not listed by Hoover (1970); recent collections from Creston (*Keil 17971, 18015*) and east of Atascadero in Rocky Canyon Cr. (*Keil 18035*).

**Mollugo verticillata* L. Just south of Creston in bed of Middle Fork of Huerhuero Cr. and in adjacent grassy areas (*Keil 17989*); ca. 2.4 km south of Creston at Beck Lake (*Wise 1865*).

Onagraceae (p. 200)

Clarkia rubicunda (Lindl.) Lewis & Lewis subsp. *rubicunda.* On grassy slope above Arroyo de los Chinos east of BM 77 (*Keil 17144*).

Plantaginaceae (p. 266)

**Plantago arenaria* Waldst. & Kit. [=*P. indica* L.]. Nipomo Mesa, locally common along Pomeroy Rd. ca. 1.6 km north of Willow Rd. in area of open dune chaparral (*Wise and Keil 16251*).

Polemoniaceae (p. 224)

Allophyllum divaricatum (Nutt.) A. & V. Grant. Scattered about open disturbed ground and roadside on eastern slope of Pine Mountain in full sun on sandstone soil, 760 m (*Miller 581-44*).

Polygonaceae (p. 109)

**Emex australis* Steinh. In stabilized coastal dunes at south end of Alexander St. in Los Osos (*Keil 15692*); along Pecho Rd. in Montaña de Oro State Park (*Keil et al. s.n.*).

**Polygonum argyrocoleon* Steud. ex Kunze. Occasional lawn weed at Los Osos Junior High School in Baywood Park (*Keil s.n.*).

**Reynoutria sachalinense* (F. S. Petrop.) Nakai in Mori [=*Polygonum sachalinense* F. S. Petrop. (Webb 1964)]. A 27-m^2 infestation was found to the east of El Camino Real, just south of Santa Ysabel Ave. in Atascadero in 1967 (*Fuller 15919*). Because there have been no reports of this infestation since 1967, it is presumed to have been eradicated (Doug Barbe, pers. comm.). Subsequently, the site in Atascadero where this species was collected has been developed commercially.

**Rumex kerneri* Borbas. Black Lake Canyon in *Eucalyptus* grove in partial shade (*Keil and Jones 15811*); San Luis Obispo on roadside in partial shade of *Eucalyptus* (*Keil 18459*).

Rumex occidentalis S. Wats. var. *fenestratus* (Greene) Lepage [=*R.*

fenestratus Greene]. Local in freshwater marsh in lee of dunes just north of Arroyo de la Cruz (*Keil 17068*).

Scrophulariaceae (p. 255)

**Bellardia trixago* (L.) All. In grassland of Laguna Lake Park, San Luis Obispo (*Smeltzer and Turnquist s.n.*; *Keil 13060*); along Turri Rd. (*Walters s.n.*); Arroyo de la Cruz, on flood plain (*Keil 17075*); Poly Canyon, locally abundant on grazed slope on north side of creek (*Riggins 1493*).

**Kickxia elatine* (L.) Dumort. East of Arroyo Grande along rd. to Lopez Lake, ca. 1.6 km east of Orcutt Rd., edge of cultivated field at border of woods (*Keil 13638*); along channel of San Luis Cr. in San Luis Obispo (*Keil 16314*).

Limosella aquatica L. Canyon Ranch south of Shandon on Shell Cr. Rd., Sinton Middle Pond (*Wise 1339, 1493*).

**Linaria vulgaris* P. Mill. Arroyo Grande at corner of Hwy 1 and Grand Ave. in wet area of roadside ditch (*Byrum and Koivisto 9*).

**Veronica persica* Poir. American Canyon, uncommon in small patch along road (*Nishida and Luckow 555*); Shandon, weed in vegetable garden (*Keil 17167*); lawn weed on campus of California Polytechnic State Univ., San Luis Obispo (*Keil 18300*).

Solanaceae (p. 253)

Solanum cornutum Lam. [=*S. rostratum* Dunal]. Atascadero in 3-F Meadows area (*Cunningham s.n.*).

Verbenaceae (p. 246)

**Verbena brasiliensis* Vell. On roadcut just south of highway bridge over Arroyo de la Cruz (*Keil 17967*).

ANTHOPHYTA—MONOCOTYLEDONEAE

Alismataceae (p. 51)

Echinodorus rostratus (Nutt.) Engelm. [=*E. berteroi* (Spreng.) Fassett]. Campus of California Polytechnic State Univ., San Luis Obispo at edge of large pond (*Sparling 1371, 1372, 1373*; *Ashley s.n.*; *Wise 936*); Santa Margarita Lake (*Wise 916, 1712*); east end of Lopez Lake below confluence of Arroyo Grande Cr. and Phoenix Cr. (*Keil 13664*).

**Sagittaria latifolia* Willd. Canyon Ranch on Shell Cr. Rd. south of Shandon where introduced in the 1970s as an ornamental (Norma Sinton, pers. comm.). It has spread locally to nearby

reservoirs: Canyon Ranch (*McKei s.n.*); Sinton South Pond (*Wise 1487, 1507*); Sycamore Reservoir (*Wise 1508*).

Araceae (p. 83)

**Peltandra virginica* (L.) Schott. Farm ponds on Canyon Ranch south of Shandon (*Wise 1353, 1496, 1509*). This species was introduced in the 1970s to a small ornamental pool (Norma Sinton, pers. comm.) and has spread subsequently to nearby reservoirs, probably through the activities of waterfowl.

Cyperaceae (p. 76)

**Cyperus esculentus* L. Along Middle Branch of Huerhuero Cr., 4.8 km south of Creston along Hwy 229, damp area in sandy stream channel (*Keil 14247*).

Hydrocharitaceae

**Egeria densa* Planch. Canyon Ranch south of Shandon, Sinton South Pond (*Wise 1317, 1484*).

Iridaceae (p. 98)

**Iris pseudacorus* L. On damp banks of San Luis Cr. (*Wise 2060*) and Meadow Lane (*Wise 1452*).

Juncaceae (p. 84)

Juncus rugulosus Engelm. Pine Canyon at the Cuyama River (*Wise 781*). Hoover (1970) indicated that the occurrence of this taxon [as *J. dubius* Engelm. forma *rugulosus* (Engelm.) Hoover] in San Luis Obispo County was to be expected.

Liliaceae (p. 88)

Calochortus weedii Wood var. *vestus* Purdy. Along road to Hearst Springs on Pine Mountain, 850 m, exposed ocean-facing slope with soil derived from serpentine mixed with rhyolite (*Miller 783-1-A,B*).

Fritillaria ojaiensis Davidson. Reservoir Canyon just north of San Luis Obispo in foothills of Santa Lucia Range (*Hrusa 121, 123*).

**Leucojum aestivum* L. Escaped from cultivation on wet bank at Atascadero Lake (*Wise 1673*) and in San Luis Obispo (*Wainwright 18*).

Poaceae (p. 52)

**Alopecurus pratensis* L. Campus of California Polytechnic State

Univ., San Luis Obispo, at base of railroad overpass on Highland Ave. (*Keil 14048*).

**Arundo donax* L. Occasional to locally abundant along creeks and in ruderal areas: San Luis Cr. (*Wise 1766, 2059*); Cuesta College Rd. (*Wise 2063*); Cambria (*Wise 2064*); along Turri Rd. (*Wise 2061*); observed along Hwy 1 near California Men's Colony, at Atascadero, east of Arroyo Grande, and near Santa Margarita Lake.

**Chloris gayana* Kunth. Weed in flower bed on campus of California Polytechnic State Univ., San Luis Obispo (*Keil 16310*).

**Eleusine tristachya* (Lam.) Lam. Canyon Ranch south of Shandon on wet bank of Sinton South Pond (*Wise 1325*).

**Eragrostis curvula* (Schrad.) Nees. Scattered for several kilometers along Lopez Lake Rd. east of Arroyo Grande (*Keil 14286, 18310*); near San Luis Obispo just north of jct. with Los Osos Valley Rd. on Foothill Blvd., grassy roadside (*Keil 18298*).

**Festuca arundinacea* Schreb. In Los Osos Valley (*Hoover 9023*) and in dry woods near Rocky Butte Lookout (*Hoover 9055*). Misidentified by Hoover (1970) as *F. elatior* L.

**Panicum dichotomiflorum* Michx. Campus of California Polytechnic State Univ., San Luis Obispo, weed at edge of cultivated field (*Ashley s.n.*).

**Panicum hillmanii* Chase. Hwy 166 at jct. with US 101 just north of Santa Maria River (*Brown 2055*).

**Panicum miliaceum* L. Los Osos, weed in residential areas (*Keil 18370*; *18430*).

**Secale cereale* L. Common along old Hwy 101 between Santa Margarita and Atascadero (*Brown 2050*).

Sporobolus contractus A. S. Hitchc. Locally common on grassy roadside along Hwy 101 at San Miguel (*Keil 18434*).

Potamogetonaceae (p. 50)

Potamogeton illinoensis Morong. Santa Margarita Lake (*Wise 908*).

Potamogeton nodosus Poir. Santa Margarita Lake (*Wise 1723*).

Potamogeton pusillus L. Shepperd's Reservoir on the campus of California Polytechnic State Univ., San Luis Obispo (*Wise 1745*); Lopez Treatment Plant near Arroyo Grande (*Wise 626-A*).

Acknowledgments

We thank the collectors who have provided their personal collection records. We are also indebted to Doug Barbe, plant taxonomist with the State of California Department of Food and Agriculture, for providing information regarding *Reynoutria sachalinense* and *Chondrilla juncea*. We also wish to thank the following individuals for specimen determinations: R. R. Haynes (*Potamogeton*), D. O. Santana (*Fritillaria ojaiensis*), and O. Ceska (*Myriophyllum*).

Literature Cited

Barkley, T. M. 1981. *Senecio* and *Erechtites* (Compositae) in the North American Flora: supplementary notes. Brittonia 33:523–527.

Fuller, T. C. 1966. Skeleton Weed: a serious threat to California agriculture. Dept. Ag. Bull. 55(1):20–31.

Hoover, R. F. 1970. The vascular plants of San Luis Obispo County, California. Univ. Calif. Press, Berkeley.

Kartesz, J. T. and R. Kartesz. 1980. A synonymized checklist of the vascular flora of the United States, Canada and Greenland. Univ. North Carolina Press, Chapel Hill.

Munz, P. A. 1968. Supplement to a California flora. Univ. Calif. Press, Berkeley.

——— and D. D. Keck. 1959. A California flora. Univ. Calif. Press, Berkeley.

Smith, K. A. 1976. The natural resources of the Nipomo Dunes and wetlands. Calif. Dept. Fish and Game Coastal Wetlands Series 15.

Tutin, T. G. et al., eds. 1964–1980. Flora Europaea. Cambridge Univ. Press. 5 vols.

Webb, D. A. 1964. *Reynoutria. In* T. G. Tutin et al., eds., Flora Europaea. Vol. 1. Lycopodiaceae to Platanaceae, p. 81. Cambridge Univ. Press.

Wise, E. A. 1984. A flora of freshwater vascular plants of San Luis Obispo County, California. M.S. thesis, California Polytechnic State Univ., San Luis Obispo.

(Received 16 Nov 1984; accepted 26 Jan 1985)

ANNOUNCEMENT

The 1985 Jesse M. Greenman Award

The 1985 Jesse M. Greenman Award has been won by George K. Rogers for his publication "*Gleasonia, Henriquezia,* and *Platycarpum* (Rubiaceae)" (Flora Neotropica Monograph No. 39). This monographic study is based on a Ph.D. dissertation from the University of Michigan Herbarium under the direction of William R. Anderson.

The Greenman Award, a cash prize of $250, is presented each year by the Missouri Botanical Garden. It recognizes the paper judged best in vascular plant or bryophyte systematics based on a doctoral dissertation that was published during the *previous* year. Papers published during *1985* are now being considered for the 18th annual award, which will be presented in the summer of 1986. Reprints of such papers should be sent to: Greenman Award Committee, Department of Botany, Missouri Botanical Garden, P.O. Box 299, St. Louis, MO 63166-0299, U.S.A. In order to be considered for the 1986 award, reprints must be received by 1 July 1986.